

WHAT IS CLAIMED IS:

1. A mobile communication system in which a base station and mobile stations carry out radio communication by using a plurality of control channels and a shared channel, wherein

said base station transmits, when transmitting data to a mobile station using the shared channel, control information, which is necessary for said mobile station to receive the data, to said mobile station using a predetermined control channel;

and

said mobile station receives the control information from the predetermined control channel, and receives the data from the shared channel referring to the control information.

2. A base station that carries out radio communication with mobile stations using a plurality of control channels and a shared channel, wherein

said base station transmits, when transmitting data to a mobile station using the shared channel, control information, which is necessary for said mobile station to receive the data, using a predetermined control channel.

3. The base station according to claim 2, wherein when transmitting the control information to said mobile station using the predetermined control channel, said base station transmits the control information intermittently.

4. The base station according to claim 3, wherein said base station accepts changes of a transmitting cycle of the control information.

5. The base station according to claim 2, wherein said base station switches the control channel that transmits the control information in accordance with preset switching conditions.

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6. The base station according to claim 2, wherein when switching the control channel, said base station transmits switching information about the control channel to said mobile station.

10 7. The base station according to claim 2, wherein said base station divides said mobile stations into groups in accordance with a transmission volume of data to each mobile station, selects simultaneous transmission target mobile stations from the groups, and assigns the plurality of control channels to
15 the simultaneous transmission target mobile stations.

8. A mobile station that carries out radio communication with a base station using a plurality of control channels and a shared channel, wherein when said base station transmits, when
20 transmitting data using the shared channel, control information, which is necessary for said mobile station to receive the data, using a predetermined control channel, said mobile station receives the control information from the predetermined control channel, and receives the data from the shared channel referring
25 to the control information.

9. The mobile station according to claim 8, wherein said mobile station intermittently receives the control information transmitted from said base station via the predetermined control
30 channel.

10. The mobile station according to claim 9, wherein said mobile station accepts changes of a receiving cycle of the control information.

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11. The mobile station according to claim 8, wherein said mobile station switches the control channel for receiving the control information in accordance with preset switching conditions.

10 12. The mobile station according to claim 8, wherein said mobile station receives switching information about the control channel from said base station, and switches the control channel in accordance with the switching information.